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- 1 [Visualizing complex hypermedia networks through multiple hierarchical views](#)
Sougata Mukherjea, James D. Foley, Scott Hudson
May 1995 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available: [html\(32.02 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

- 2 [Navigating hierarchically clustered networks through fisheye and full-zoom methods](#)
Doug Schaffer, Zhengping Zuo, Saul Greenberg, Lyn Bartram, John Dill, Shelli Dubs, Mark Roseman
June 1996 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 3 Issue 2

Full text available: [pdf\(305.99 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Many information structures are represented as two-dimensional networks (connected graphs) of links and nodes. Because these network tend to be large and quite complex, people often prefer to view part or all of the network at varying levels of detail. Hierarchical clustering provides a framework for viewing the network at different levels of detail by superimposing a hierarchy on it. Nodes are grouped into clusters, and clusters are themselves place into other clusters. Us ...

Keywords: data acquisition, fisheye views, hierarchically clustered graphs, information visualization, supervisory control

- 3 [The continuous zoom: a constrained fisheye technique for viewing and navigating large information spaces](#)
Lyn Bartram, Albert Ho, John Dill, Frank Henigman
December 1995 **Proceedings of the 8th annual ACM symposium on User interface and software technology**


Full text available: [pdf\(1.02 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: fisheye view, graphical user interface, hierarchical network, information space, information visualization, navigation, supervisory control systems

4 Context and orientation in hypermedia networks

Kenneth Utting, Nicole Yankelovich

January 1989 **ACM Transactions on Information Systems (TOIS)**, Volume 7 Issue 1

Full text available:  [pdf\(2.20 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The core of hypermedia's power lies in the complex networks of links that can be created within and between documents. However, these networks frequently overwhelm the user and become a source of confusion. Within Intermedia, we have developed the Web View-a tool for viewing and navigating such networks with a minimum of user confusion and disorientation. The key factors in the Web View's success are a display that combines a record of the user's path through the network with a map of the c ...



5 Improving graphical information system model use with elision and connecting lines

Jouni Huotari, Kalle Lyytinen, Marketta Niemelä

March 2004 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 11 Issue 1

Full text available:  [pdf\(217.95 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Graphical information system (IS) models are used to specify and design IS from several perspectives. Due to the growing size and complexity of modern information systems, critical design information is often distributed via multiple diagrams. This slows search performance and results in reading errors that later cause omissions and inconsistencies in the final designs. We study the impact of large screens and the two promising visual integration techniques of elision and connecting lines that c ...

Keywords: Information visualization, diagrammatic representation, spatial ability, spatial memory, visual search



6 Improving visualization: A graph-based interface to complex hypermedia structure visualization

Manuel Freire, Pilar Rodríguez

May 2004 **Proceedings of the working conference on Advanced visual interfaces**

Full text available:  [pdf\(155.33 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Complex hypermedia structures can be difficult to author and maintain, especially when the usual hierarchic representation cannot capture important relations. We propose a graph-based direct manipulation interface that uses multiple focus+context techniques to avoid display clutter and information overload. A semantical fisheye lens based on hierarchical clustering allows the user to work on high-level abstracts of the structure. Navigation through the resulting graph is animated in order to avo ...

Keywords: focus+context, graph visualization, hypermedia




7 Computing curricula 2001

September 2001 **Journal on Educational Resources in Computing (JERIC)**

Full text available:  [pdf\(613.63 KB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

 [html\(2.78 KB\)](#)



8 Focus+context views of World-Wide Web nodes

Sougata Mukherjea, Yoshinori Hara

April 1997 **Proceedings of the eighth ACM conference on Hypertext**

Full text available:  [pdf\(945.76 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)


Keywords: World-Wide Web, information visualization, landmarks, overview diagrams



9 Information visualization for hypermedia systems

Sougata Mukherjea

December 1999 **ACM Computing Surveys (CSUR)**

Full text available:  [pdf\(29.80 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)


Keywords: focus+context views, information visualization



10 Chimera: hypermedia for heterogeneous software development environments

Kenneth M. Anderson, Richard N. Taylor, E. James Whitehead

July 2000 **ACM Transactions on Information Systems (TOIS)**, Volume 18 Issue 3

Full text available:  [pdf\(864.32 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Emerging software development environments are characterized by heterogeneity: they are composed of diverse object stores, user interfaces, and tools. This paper presents an approach for providing hypermedia services in this heterogeneous setting. Central notions of the approach include the following: anchors are established with respect to interactive views of objects, rather than the objects themselves; composable, n-ary links can be established between a ...


Keywords: heterogeneous hypermedia, hypermedia system architectures, link servers, open hypermedia systems, software development environments



11 Galaxy of news: an approach to visualizing and understanding expansive news landscapes

Earl Rennison

November 1994 **Proceedings of the 7th annual ACM symposium on User interface software and technology**

Full text available:  [pdf\(1.38 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The Galaxy of News system embodies an approach to visualizing large quantities of independently authored pieces of information, in this case news stories. At the heart of this system is a powerful relationship construction engine that constructs an associative relation network to automatically build implicit links between related articles. To visualize these relationships, and hence the news information space, the Galaxy of News uses pyramidal structuring and visual presentation, semantic ...

Keywords: 3D interactive graphics, abstracted information spaces, information interaction design, information space design, information visualization, pyramidal information structures



Hypermedia semantics: Finding the story: broader applicability of semantics and discourse for hypermedia generation

Lloyd Rutledge, Martin Alberink, Rogier Brussee, Stanislav Pokraev, William van Dieten, Mettina Veenstra

August 2003 **Proceedings of the fourteenth ACM conference on Hypertext and hypermedia**

Full text available:  pdf(396.48 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Generating hypermedia presentations requires processing constituent material into coherent, unified presentations. One large challenge is creating a generic process for producing hypermedia presentations from the semantics of potentially unfamiliar domains. The resulting presentations must both respect the underlying semantics and appear as coherent, plausible and, if possible, pleasant to the user. Among the related unsolved problems is the inclusion of discourse knowledge in the generation pro ...


Keywords: RDF, SMIL, clustering, concept lattices, discourse, hypermedia, narrative, semantics



13 MAPA: a system for inducing and visualizing hierarchy in Websites

David Durand, Paul Kahn

May 1998 **Proceedings of the ninth ACM conference on Hypertext and hypermedia : links, objects, time and space---structure in hypermedia systems: links, objects, time and space---structure in hypermedia systems**

Full text available:  pdf(1.52 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



14 Visualizing and assessing navigation in hypertext

John E. McEneaney

February 1999 **Proceedings of the tenth ACM Conference on Hypertext and hypermedia : returning to our diverse roots: returning to our diverse roots**

Full text available:  pdf(1.17 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



Keywords: empirical validation, navigation metrics, navigation patterns, path analysis, user paths, visualization

15 Integrating computer technology, people technology and application technology: strategies and case studies from Georgia Tech's Graphics, Visualization and Usability Center

Jim Foley

June 1994 **Proceedings of the workshop on Advanced visual interfaces**

Full text available:  pdf(1.27 MB)

Additional Information: [full citation](#), [index terms](#)




16 Link aggregation: Browsing intricately interconnected paths

Pratik Dave, Unmil P. Karadkar, Richard Furuta, Luis Francisco-Revilla, Frank Shipman, Suvendu Dash, Zubin Dalal

August 2003 **Proceedings of the fourteenth ACM conference on Hypertext and hypermedia**




Full text available:  [pdf\(646.03 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Graph-centric and node-centric browsing are the two commonly identified hypertext-browsing paradigms. We believe that path-centric browsing, the browsing behavior exhibited by path interfaces, is an independent browsing paradigm that combines useful aspects of the two commonly supported cases. Paths have long been recognized as an effective medium for aggregating and communicating information and have been included in various hypermedia systems as alternate metaphors or supporting tools. The Wal ...

Keywords: Walden's paths, directed paths, navigation metaphors, path engine, path-centric browsing

17 [A statechart-based model for hypermedia applications](#)

Maria Cristina Ferreira de Oliveira, Marcelo Augusto Santos Turine, Paulo Cesar Masiero
January 2001 **ACM Transactions on Information Systems (TOIS)**, Volume 19 Issue 1


Full text available:  [pdf\(215.08 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

This paper presents a formal definition for HMBS (Hypermedia Model Based on Statecharts). HMBS uses the structure and execution semantics of statecharts to specify both the structural organization and the browsing semantics of hypermedia applications. Statecharts are an extension of finite-state machines and the model is thus a generalization of hypergraph-based hypertext models. Some of the most important features of HMBS are its ability to model hierarchy and synchronization of informatio ...

Keywords: HMBS, browsing semantics, hypermedia specification, navigational model, statecharts

18 [A visual retrieval environment for hypermedia information systems](#)

Dario Lucarella, Antonella Zanzi
January 1996 **ACM Transactions on Information Systems (TOIS)**, Volume 14 Issue 1

Full text available:  [pdf\(1.76 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

We present a graph-based object model that may be used as a uniform framework for direct manipulation of multimedia information. After an introduction motivating the need for abstraction and structuring mechanisms in hypermedia systems, we introduce the data model and the notion of perspective, a form of data abstraction that acts as a user interface to the system, providing control over the visibility of the objects and their properties. A perspective is defined to include an intension and ...

Keywords: browsing, complex objects, direct object manipulation, graph-oriented models, hypermedia applications, information filtering, visual interface

19 [Streams, structures, spaces, scenarios, societies \(5s\): A formal model for digital libraries](#)

Marcos André Gonçalves, Edward A. Fox, Layne T. Watson, Neill A. Kipp
April 2004 **ACM Transactions on Information Systems (TOIS)**, Volume 22 Issue 2

Full text available:  [pdf\(316.85 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Digital libraries (DLs) are complex information systems and therefore demand formal foundations lest development efforts diverge and interoperability suffers. In this article, we


propose the fundamental abstractions of Streams, Structures, Spaces, Scenarios, and Societies (5S), which allow us to define digital libraries rigorously and usefully. Streams are sequences of arbitrary items used to describe both static and dynamic (e.g., video) content. Structures can be viewed as labeled directed gra ...

Keywords: applications., definitions, foundations, taxonomy

20 Tools and approaches for developing data-intensive Web applications: a survey

Piero Fraternali

September 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 3

Full text available:  pdf(524.80 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The exponential growth and capillar diffusion of the Web are nurturing a novel generation of applications, characterized by a direct business-to-customer relationship. The development of such applications is a hybrid between traditional IS development and Hypermedia authoring, and challenges the existing tools and approaches for software production. This paper investigates the current situation of Web development tools, both in the commercial and research fields, by identifying and characte ...

Keywords: HTML, Intranet, WWW, application, development

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